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De Jong et al.(10) **Pub. No.: US 2008/0252607 A1**(43) **Pub. Date: Oct. 16, 2008**(54) **IMAGE DISPLAY THAT MOVES PHYSICAL
OBJECTS AND CAUSES TACTILE
SENSATION**(86) PCT No.: **PCT/IB2005/053990**§ 371 (c)(1),
(2), (4) Date: **Mar. 7, 2008**(75) Inventors: **Nicolas De Jong**, Veldhoven (NL);
Elmo Marcus Attila Diederiks,
Eindhoven (NL); **Murray Fulton**
Gillies, Eindhoven (NL); **Jurgen**
Jean Louis Hoppenbrouwers,
Eindhoven (NL); **Johannes**
Henricus Maria Korst, Eindhoven
(NL); **Thomas Casper Kraan**,
Eindhoven (NL); **Rogier Winters**,
Weert (NL)**Related U.S. Application Data**(60) Provisional application No. 60/632,133, filed on Dec.
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(57) **ABSTRACT**

Correspondence Address:

**PHILIPS INTELLECTUAL PROPERTY &
STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510 (US)**(73) Assignee: **KONINKLIJKE PHILIPS
ELECTRONICS, N.V.,
EINDHOVEN (NL)**(21) Appl. No.: **11/719,996**(22) PCT Filed: **Nov. 30, 2005**

An image display including a touch-sensitive display, that creates tactile sensation and movement of an object (3-2) along its surface is provided. Actuators including conductive rods (4-111, 4-112) attached together may be used, such that each rod of the actuator (4-11) may increase or decrease in size when current is applied to that rod to cause the actuator to bend toward a specified direction. Also, an image display that includes ball bearings (1-10) whose rotation is controlled by driving magnets (1-21, 1-22) to cause an object to move is provided. Further, air holes (3-11) tilted in various directions to control object movement by air pressure may be provided. Moreover, rods (3-10) may be moved up or down as activated by driving magnets (2-20). The actuators, rods, ball bearing assemblies, or holes may provide touch sensitivity for the image display.

